

# SEQUENCE LISTING

<110> Adolf, Guenther  
 Baum, Anke  
 Heider, Karl-Heinz

<120> Compositions and Methods for Treating Cancer using  
 Cytotoxic CD44 Antibody Immunoconjugates and  
 Chemotherapeutic Agents

<130> 1/1383

<140> To be assigned  
 <141> 2003-08-21

<150> EP 02 018 686.2  
 <151> August 21, 2002

<150> US 60/405,956  
 <151> August 26, 2002

<160> 9

<170> PatentIn Ver. 2.1

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 <212> PRT  
 <213> Homo sapiens

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 Gln Trp Phe Gly Asn Arg Trp His Glu Gly Tyr Arg Gln Thr Pro Arg  
 20 25 30  
 Glu Asp Ser His Ser Thr Thr Gly Thr Ala  
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 <212> PRT  
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<212> PRT  
<213> Homo sapiens

<400> 3  
Trp Phe Gly Asn Arg Trp His Glu Gly Tyr Arg  
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<210> 4  
<211> 213  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Humanised Murine Antibody BIWA 4 Light Chain

<400> 4  
Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly  
1 5 10 15  
Glu Arg Ala Thr Leu Ser Cys Ser Ala Ser Ser Ser Ile Asn Tyr Ile  
20 25 30  
Tyr Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile Tyr  
35 40 45  
Leu Thr Ser Asn Leu Ala Ser Gly Val Pro Ala Arg Phe Ser Gly Ser  
50 55 60  
Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro Glu  
65 70 75 80  
Asp Phe Ala Val Tyr Tyr Cys Leu Gln Trp Ser Ser Asn Pro Leu Thr  
85 90 95  
Phe Gly Gly Gly Thr Lys Val Glu Ile Lys Arg Thr Val Ala Ala Pro  
100 105 110  
Ser Val Phe Ile Phe Pro Pro Ser Asp Glu Gln Leu Lys Ser Gly Thr  
115 120 125  
Ala Ser Val Val Cys Leu Leu Asn Asn Phe Tyr Pro Arg Glu Ala Lys  
130 135 140  
Val Gln Trp Lys Val Asp Asn Ala Leu Gln Ser Gly Asn Ser Gln Glu  
145 150 155 160  
Ser Val Thr Glu Gln Asp Ser Lys Asp Ser Thr Tyr Ser Leu Ser Ser  
165 170 175

Thr Leu Thr Leu Ser Lys Ala Asp Tyr Glu Lys His Lys Val Tyr Ala  
180 185 190

Cys Glu Val Thr His Gln Gly Leu Ser Ser Pro Val Thr Lys Ser Phe  
195 200 205

Asn Arg Gly Glu Cys  
210

<210> 5  
<211> 702  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Humanised Murine Antibody BIWA 4 Light Chain

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gaaattgttc tcaccagtc tccagcaacc ctgtctctgt ctccagggga gagggccacc 120  
ctgtcctgca gtgccagctc aagtataaat tacatatact ggtaccagca gaagccagga 180  
caggctccta gactcttgat ttatctcaca tccaacctgg cttctggagt ccctgcgcgc 240  
ttcagtggca gtgggtctgg aaccgacttc actctcacia tcagcagcct ggagcctgaa 300  
gattttgccc tttattactg cctgcagtggt agtagtaacc cgctcacatt cgggtgggtggg 360  
accaaggtgg agattaaacg tacgggtggct gcaccatctg tcttcatctt cccgccatct 420  
gatgagcagt tgaaatctgg aactgcctct gttgtgtgcc tgctgaataa cttctatccc 480  
agagaggcca aagtacagtg gaagggtggat aacgccctcc aatcgggtaa ctcccaggag 540  
agtgtcacag agcaggacag caaggacagc acctacagcc tcagcagcac cctgacgctg 600  
agcaaagcag actacgagaa acacaaagtc tacgcctgcg aagtcaccca tcagggcctg 660  
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<212> PRT  
<213> Artificial Sequence

<220>  
<223> Humanised Murine Antibody BIWA 4 Heavy Chain

<400> 6  
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Lys Pro Gly Gly  
1 5 10 15  
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr  
20 25 30  
Asp Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val  
35 40 45  
Ser Thr Ile Ser Ser Gly Gly Ser Tyr Thr Tyr Tyr Leu Asp Ser Ile

50					55					60					
Lys 65	Gly	Arg	Phe	Thr	Ile 70	Ser	Arg	Asp	Asn	Ala 75	Lys	Asn	Ser	Leu	Tyr 80
Leu	Gln	Met	Asn	Ser 85	Leu	Arg	Ala	Glu	Asp 90	Thr	Ala	Val	Tyr	Tyr 95	Cys
Ala	Arg	Gln	Gly 100	Leu	Asp	Tyr	Trp	Gly 105	Arg	Gly	Thr	Leu	Val 110	Thr	Val
Ser	Ser	Ala 115	Ser	Thr	Lys	Gly	Pro 120	Ser	Val	Phe	Pro	Leu 125	Ala	Pro	Ser
Ser 130	Lys	Ser	Thr	Ser	Gly	Gly 135	Thr	Ala	Ala	Leu	Gly 140	Cys	Leu	Val	Lys
Asp 145	Tyr	Phe	Pro	Glu	Pro 150	Val	Thr	Val	Ser	Trp 155	Asn	Ser	Gly	Ala	Leu 160
Thr	Ser	Gly	Val	His 165	Thr	Phe	Pro	Ala	Val 170	Leu	Gln	Ser	Ser	Gly 175	Leu
Tyr	Ser	Leu	Ser 180	Ser	Val	Val	Thr	Val 185	Pro	Ser	Ser	Ser	Leu 190	Gly	Thr
Gln	Thr	Tyr 195	Ile	Cys	Asn	Val	Asn 200	His	Lys	Pro	Ser	Asn 205	Thr	Lys	Val
Asp 210	Lys	Lys	Val	Glu	Pro	Lys 215	Ser	Cys	Asp	Lys	Thr 220	His	Thr	Cys	Pro
Pro 225	Cys	Pro	Ala	Pro	Glu 230	Leu	Leu	Gly	Gly 235	Pro	Ser	Val	Phe	Leu	Phe 240
Pro	Pro	Lys	Pro	Lys 245	Asp	Thr	Leu	Met	Ile 250	Ser	Arg	Thr	Pro	Glu 255	Val
Thr	Cys	Val	Val 260	Val	Asp	Val	Ser	His 265	Glu	Asp	Pro	Glu	Val 270	Lys	Phe
Asn	Trp	Tyr 275	Val	Asp	Gly	Val	Glu 280	Val	His	Asn	Ala	Lys 285	Thr	Lys	Pro
Arg 290	Glu	Glu	Gln	Tyr	Asn	Ser 295	Thr	Tyr	Arg	Val	Val 300	Ser	Val	Leu	Thr
Val 305	Leu	His	Gln	Asp	Trp 310	Leu	Asn	Gly	Lys	Glu 315	Tyr	Lys	Cys	Lys	Val 320
Ser	Asn	Lys	Ala	Leu 325	Pro	Ala	Pro	Ile	Glu 330	Lys	Thr	Ile	Ser	Lys 335	Ala

Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg  
 340 345 350  
 Asp Glu Leu Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly  
 355 360 365  
 Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro  
 370 375 380  
 Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser  
 385 390 395 400  
 Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln  
 405 410 415  
 Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn His  
 420 425 430  
 Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys  
 435 440

<210> 7  
 <211> 1392  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Humanised Antibody BIWA 4 Heavy Chain

<400> 7  
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 tgtgcagcct ctggattcac tttcagtagc tatgacatgt cttggggttcg ccaggctccg 180  
 gggaagggggc tggagtgggt ctcaaccatt agtagtggtg gtagttacac ctactatcta 240  
 gacagtataa agggccgatt caccatctcc agagacaatg ccaagaactc cctgtacctg 300  
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 gactactggg gtcgaggaac cttagtcacc gtctcctcag ctagcaccaa gggcccatcg 420  
 gtcttcccc tggcaccctc ctccaagagc acctctgggg gcacagcggc cctgggctgc 480  
 ctgggtcaagg actacttccc cgaaccggtg acggtgtcgt ggaactcagg cgccctgacc 540  
 agcggcgtgc acaccttccc ggctgtccta cagtcctcag gactctactc cctcagcagc 600

gtggtgaccg tgccctccag cagcttgggc acccagacct acatctgcaa cgtgaatcac 660  
 aagcccagca acaccaaggt ggacaagaaa gttgagccca aatcttgtga caaaactcac 720  
 acatgcccac cgtgcccagc acctgaactc ctgggggggac cgtcagtctt cctcttcccc 780  
 ccaaaaccca aggacaccct catgatctcc cggacccctg aggtcacatg cgtggtggtg 840  
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 gaaccacagg tgtacaccct gcccccatcc cgggatgagc tgaccaagaa ccaggtcagc 1140  
 ctgacctgcc tgggtcaaagg cttctatccc agcgacatcg ccgtggagtg ggagagcaat 1200  
 gggcagccgg agaacaacta caagaccacg cctcccgtgc tggactccga cggctccttc 1260  
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 <211> 213  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Humanised Antibody BIWA 8 Light Chain

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 Glu Arg Ala Thr Leu Ser Cys Ser Ala Ser Ser Ser Ile Asn Tyr Ile  
 20 25 30  
 Tyr Trp Leu Gln Gln Lys Pro Gly Gln Ala Pro Arg Ile Leu Ile Tyr  
 35 40 45  
 Leu Thr Ser Asn Leu Ala Ser Gly Val Pro Ala Arg Phe Ser Gly Ser  
 50 55 60  
 Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro Glu  
 65 70 75 80

Asp Phe Ala Val Tyr Tyr Cys Leu Gln Trp Ser Ser Asn Pro Leu Thr  
                             85                            90                            95  
 Phe Gly Gly Gly Thr Lys Val Glu Ile Lys Arg Thr Val Ala Ala Pro  
                             100                            105                            110  
 Ser Val Phe Ile Phe Pro Pro Ser Asp Glu Gln Leu Lys Ser Gly Thr  
                             115                            120                            125  
 Ala Ser Val Val Cys Leu Leu Asn Asn Phe Tyr Pro Arg Glu Ala Lys  
                             130                            135                            140  
 Val Gln Trp Lys Val Asp Asn Ala Leu Gln Ser Gly Asn Ser Gln Glu  
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 Ser Val Thr Glu Gln Asp Ser Lys Asp Ser Thr Tyr Ser Leu Ser Ser  
                             165                            170                            175  
 Thr Leu Thr Leu Ser Lys Ala Asp Tyr Glu Lys His Lys Val Tyr Ala  
                             180                            185                            190  
 Cys Glu Val Thr His Gln Gly Leu Ser Ser Pro Val Thr Lys Ser Phe  
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 Asn Arg Gly Glu Cys  
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<210> 9

<211> 702

<212> DNA

<213> Artificial Sequence

<220>

<223> Humanised Antibody BIWA 8 Light Chain

<400> 9

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 ctgtcctgca gtgccagctc aagtataaat tacatatact ggctccagca gaagccagga 180  
 caggctccta gaatcttgat ttatctcaca tccaacctgg cttctggagt ccctgcgcgc 240  
 ttcagtggca gtgggtctgg aaccgacttc actctcacia tcagcagcct ggagcctgaa 300  
 gattttgccg tttattactg cctgcagtgg agtagtaacc cgctcacatt cggtgggtggg 360  
 accaaggtgg agattaaacg tacggtggct gcaccatctg tcttcatctt cccgccatct 420

gatgagcagt tgaaatctgg aactgcctct gttgtgtgcc tgctgaataa cttctatccc 480  
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agtgtcacag agcaggacag caaggacagc acctacagcc tcagcagcac cctgacgctg 600  
agcaaagcag actacgagaa acacaaagtc tacgcctgcg aagtcaccca tcagggcctg 660  
agctcgcccg tcacaaagag cttcaacagg ggagagtgtt ga 702